

**Policy for development of Pumped Storage Projects (PSPs), PSPs cum LIS and co-located PSP-Solar/Other Renewable Energy Hybrid Projects through Public Private Partnership**

**Government of Maharashtra**

**Water Resources Department**

**Government Resolution No. Misc.2021/CR82/2021/HP**

Mantralaya, Mumbai 400032

Date: 20.12.2023

**1. Preamble:**

Globally, Pumped Storage Project (PSP) is an established, proven and cost effective technology for storing electricity at times of high generation and/or Low demand which can then be released in peak demand. PSPs are designed to time shift electricity to periods of peak demand so that power is stored when it is least expensive and then used during peak demand when prices are high.

With its almost instantaneous start capacity, PSP is ideal for meeting evening peaks as well as providing grid frequency stabilisation services.

Renewable Energy (RE) installation like solar and wind generate power as per the availability of natural resources which are inconsistent in nature and therefore may not match the demand pattern. Due to mismatch in demand and supply, the grid may face problem of stability, flexibility, reliability and security.

In order to meet such challenges, “Energy Storage System” (ESS) is essential for the Load generation balancing. By bundling ESS with solar or wind power installation schedulable power can be made available to the grid.

Pumped Storage Projects (PSPs) are the most matured and reliable Mega Watt (MW) Level ESS, which are comparatively more environmental friendly, in the sense that it does not pose any disposal problem at the end of service life and considering the life cycle cost, it is cheaper than other alternative ESS.

PSP provides many benefits to the grid such as frequency regulation, phase modulation, reactive power compensation, incidental backup and black start. PSP is effective tool for peak load management of the grid. It consumes energy in off peak hours and generates in peak hours. In RE smoothing, it helps smooth out variability of the RE sources for stabilization of grid thereby making RE integration stable. Through ancillary services, it helps to manage reactive

power requirement of the grid and thereby supports the voltage management of the system. It also acts as a spinning reserve for fast ramp up /ramp down in case of generation failure /shortage or loss of load. It also helps in black start in case of system blackout. The ancillary services offered by PSP have variety of beneficiaries, including various types of thermal power plants, nuclear power plants and renewable energy, as well as power grids and consumers. In fact, ancillary services offered by PSP serves the entire power system.

## **2. Background of Policy:**

The Government of India, Ministry of Power (MoP) in its Report “ Formulation of Comprehensive Policy Framework for Promotion of Energy Storage in Power Sector” has expressed that appropriate government may kickstart the initial energy storage procurement with 15-20% capacity. Further, the said report has also prompted that the appropriate Commission may approve the costs to be paid by the system operators for ancillary services provided by the ESS.

MoP has issued an Order dated March 8, 2019, dealing with various policy measures to promote hydropower sector in India. In the said order, Large Hydropower Projects (LHPs), including PSPs having capacity of more than 25 MW which will come into commercial operation after March 8, 2019, have been declared as renewable energy source and also specified Hydropower Purchase Obligation (HPO) as a separate category within Non-Solar Renewable Purchase Obligations (RPO).

Further, with the objective to add 30 GW of hydropower capacity by the year 2029-2030, MoP vide Memorandum, dated January 29, 2021 & July 22, 2022 has issued a revised trajectory of RPO, including long term trajectory for HPO. The LHPs including PSP, commissioned after March 8, 2019 and up to March 31, 2030 are entitled to get HPO benefits.

Further, MoP vide its order dated November 23, 2021 has waived off Inter-State Transmission System (ISTS) charges for entire useful life for the RE and storage. Projects commissioned on or before June 30, 2025 and thereafter

partly ISTS charges will be applicable for the ESS projects commissioned during June 30,2025 to June 30, 2028.

Maharashtra Electricity Regulatory Commission (MERC) on March 9, 2022 has notified the framework for implementation of Reactive Energy Accounting for Intra-State hydroelectric generating stations which will compensate to some extent, the hydro generators including PSP for the reactive power supplied by it.

Further guidelines to promote development of PSP dt.10.04.2023 & National framework for promoting energy storage systems (Aug. 2023) issued by MoP, GoI have been considered. These guidelines mainly includes points regarding allotment of project sites, No upfront premium for project allocation, exemption from free power obligation and local area development fund, waiver of ISTS charges, energy storage obligation and other financial aspects.

All these initiatives have created encouraging environment for the development of hydro projects and PSPs. In Maharashtra, almost all the sites for LHPs have been exploited. However, by virtue of Sahyadri ranges it has attractive sites of PSPs.

### **3. Relevant Legal Provisions:**

- a) Government of Maharashtra, through various enactments has constituted five Irrigation Development Corporations (IDC) in the State.

As per the provisions in Section 15 of the respective IDC Acts, all the projects and assets including hydroelectric projects, situated in the area of jurisdiction of these IDCs, earlier vested with the State Government have been transferred to the respective IDCs.

- b) Section 18 of these IDC Acts empowers the respective IDC to plan, investigate, design, construct and manage, promote and operate schemes for the generation of hydroelectric projects. Further these IDCs are also empowered to invite bids/offers for the purpose of all the activities of the Corporations, promote participation of any person or body for designing and management of hydroelectric projects. Thus respective IDCs by virtue of statutory provisions, have right of harnessing the natural resources in its jurisdiction and earn revenue from it.

- c) The Electricity Act (EA) 2003 has de-licensed the generation of electricity. Section 7 of the act specifies that any generating company may establish, operate

and maintain a generating station without obtaining a license under this Act, if it complies with the technical standards relating to connectivity with the grid referred to in Clause (b) of the Section 73 of the Act.

- d) Governments of India, Ministry of Power, vide Office Memorandum dated March 8, 2019 increased project life from 35 years to 40 years.
- e) The State Water Policy 2019, in its clause no. 18 has declared the intent of the State Government to promote the private sector participation in development of PSP & large LIS.

#### **4. Abbreviations.**

Abbreviations used in the policy are enclosed in the form of “Annexure-1”.

#### **5. Need for the PSP Policy :-**

By virtue of Sahyadri ranges, Maharashtra has attractive sites for development of PSPs. Maharashtra has commissioned Ghatghar PSP (2 X 125 MW) way back in the year 2008. Several PSP sites are identified by state / central government and also by the private developers. Recently MoP, GoI has decided to take feasibility study of various PSP sites in the Country through Central Public Sector Enterprises (CPSEs) Like THDCL, SJVNL, NHPC, NTPC etc. so that those PSPs can be taken for development in a big way. Accordingly 18 PSP sites (as per Annexure II) in Maharashtra in Sayhadri ranges are earmarked for study through these CPSEs.

Considering the importance of PSP, on the backdrop of current as well future power scenario of the state and the nation, Government of Maharashtra, Water Resources Department (GoMWRD) decided to boost the development of PSP through Public Private Partnership (PPP). Therefore to streamline the development of PSP, GoMWRD decided to come out with a comprehensive policy document in the state through PPP.

Even though public sector organisation would play a greater role in the development of new schemes, these alone would not be adequate to develop the vast remaining hydro power potential. Since it will require huge investment which may be difficult to be supported from the budget plan assistance in view of competing demands from the various sectors. A great private sector investment would be encouraged in the coming years and required atmosphere,

incentives and reliefs would be provided to stimulate and maintain trend in this direction.

As various diverse technical and regulatory provisions are involved that are associated with PSPs, WRD constituted a committee of experts vide GR dated 27.10.2021 for formulating the draft policy document for development of PSPs in the State through PPP.

Considering the above scenario of PSPs in the State so far, relevant legal provisions and the draft policy document submitted by the committee, Government of Maharashtra, Water Resources Department with approval of State Cabinet meeting dt. 10.10.2023 is pleased to declare this policy for development of Pumped Storage Projects (PSPs) through public private participation (PPP).

## **6. Objectives of the Policy:**

The State Government intends to achieve following objectives through this Policy:

- a. To develop Mega Watt (MW) Level Energy Storage Systems in the form of PSPs, in the State for the safe and reliable operation of the grid
- b. To promote co-located Pumped Hydro-Solar Hybrid Power Projects for optimum utilisation of land available with IDCs at the site and power evacuation infrastructure
- c. To promote PSP- cum- Large LIS for inter basin transfer of water
- d. To create suitable environment for attracting private sector investment for development of PSPs
- e. To lay down the comprehensive framework for effective implementation of the policy.

## **7. Scope:**

The provisions in this policy are applicable to all PSPs harnessing the hydropower potential of the State of Maharashtra.

## **8. Categories of PSP :-**

Considering the state specific scenario, for the sake of policy implementation, PSPs are classified into following categories :

**Category I:** a. Under construction PSP where sizable investment by GoMWRD is already made.

- b. PSP identified by GoMWRD/IDC where Lower & Upper reservoir both or either owned by GoMWRD/IDC.
- c. PSP identified by GoMWRD/IDC where Lower & Upper reservoir are not owned by GoMWRD /IDC

**Category II:** PSP identified by developer (Private or CPSE) where Lower and Upper reservoirs may or may not be owned by GoMWRD/IDC and no expenditure is incurred by GoMWRD/IDC.

**Category III :**PSP cum Lift Irrigation Scheme (LIS) to transfer water from West flowing rivers to deficit basins.

## **Part A : Implementation Framework**

### **A-I Implementation for Category- I (a,b & c) PSPs;**

A-I.1.a PSPs under Category I.a) are GoMWRD undertaken PSPs and sizable investment is already made on the PSPs. At present there is only one project of this category viz. Koyna Left Bank Dam Foot Power House (2x40MW). For development of this PSP, first preference will be given to MAHAGENCo. The “Right of First Refusal” will vest with MAHAGENCo and stands valid upto 3 months from the date of intimation for development of this project. If MAHAGENCo shows interest in development of this project, the project may be developed by forming Joint Venture (JV) /Special Purpose Vehicle (SPV) between GoMWRD and MAHAGENCo. Final decision whether to form JV/SPV will vest with GoMWRD and Energy Department. If no decision is taken by MAHAGENCo within three months from the date of intimation of development of Project as mentioned above, then it will be directly allotted to CPSE. The Project may be developed by forming JV/SPV between GoMWRD and CPSE. If CPSE fails to take decision of development of this project within three months from the date of intimation for development of this project, then it shall be carried out through competitive bidding process by GoMWRD.

If MAHAGENCo or CPSE are not willing to form JV/SPV with GoMWRD, the developer will be selected through bidding process. In this case the actual expenditure incurred by GoMWRD on project be derived to the current price level of the bid and be paid one time to GoMWRD or shall be distributed equally along with the interest at the average State Bank of India (SBI) Marginal Cost of funds based

Lending Rate (MCLR) over the normative life of 40 years starting from Commercial Operation Date (COD). The expenditure to be considered for this purpose shall be corrected to actual expenditure on works of power component plus entitled normative establishment charges to the price level of the bid.

A-I.1.b & 1.c Some of the PSP sites under this category I.b) & I.c) are identified by WRD/IDC and Preliminary Investigation Report (PIR) are prepared by GoMWRD. Out of these projects MAHAGENCo has shown its interest for development of few projects. These PSPs shall be allotted directly through MOU route. First preference will be given to MAHAGENCo, if no decision is taken by MAHAGENCo within 3 months, then second preference will be given to CPSE and stands valid upto 3 months from the date of intimation. MAHAGENCo may opt to develop these sites by forming a Joint Venture with CPSE.

A-I.2 If MAHAGENCo / CPSE fails to enter in to MoU/ obtain Water Availability Certificate and start the process of submitting Detailed Project Report (DPR) to Competent Authority, within stipulated time period of six months, then selection of the developer for category I-b shall be done through competitive bidding wherever applicable shall be done by GoMWRD & for category I-C through Tariff Based Competitive Bidding (TBCB) shall be done by GoMDoE.

A-I.3 Letter of Permission (LoP) for survey, investigation & preparation of DPR will be issued to the developer selected by bidding process.

A-I.4: Developer shall apply to concerned IDC to obtain NOC for water availability. After receiving proposal from IDC, Chief Engineer (Hydrology & Dam Safety), Nasik shall issue Water Availability Certificate. This process should be completed preferably within 3 months from signing of MoU with MAHAGENCo / CPSE or from date of LoP in case of competitive bidding.

A-I.5: Developer shall carryout survey /investigation and prepare DPR based on the Water Availability Certificate & obtain clearance from the competent authority. i.e. CEA or GoMWRD within the stipulated time from the date of Water Availability Certificate as per the prevailing norms of CEA.

A-I.6: All other statutory clearances / approvals shall be obtained by the developer. The State would facilitate the process of acquisition of land, if required.

A-I.7 If developer fails to obtain DPR clearance as stipulated in clause A-I.5 within stipulated period, he shall justify the delay and seek extension to the MoU/LoP given, otherwise MoU/LoP shall stand cancelled. Power to give such extension is with Secretary (CAD), GoMWRD in case of category I-a & I-b projects. In case of category I-c projects, power to give such extension is with Principal Secretary, GoMDoE.

Following provisions are applicable for category I-a & I-b Projects.

A-I.8 After getting clearance from the Competent Authority, the approved DPR shall be submitted to the Concerned IDC. IDC shall then issue Letter of Allotment (LoA) within 30 days followed by signing of Hydro Power Development Agreement (HPDA) with the concerned Civil Chief Engineer under IDC having the jurisdiction of lower reservoir within 30 days from the date of LoA. LoA shall also include the various mandatory payments to be done by the developer to IDC.

A-I.9 HPDA shall be on Built, Operate and Transfer (BOT) basis. After signing of HPDA, all statutory clearances and financial closure shall be done within one year by the developer. After getting all statutory clearances and financial closure, Letter of Authorization (LoAS) to start the work, shall be given by IDC within 15 days after getting documentary evidence/proof.

A-I.10 Construction/ erection period shall be 4 years from the date of LoAS & normative life of the project shall be 40 years from the date of commissioning.

A-I.11: The term of the HPDA shall be 45 years. After expiry of the term of agreement, developer shall carry out renovation and modernization of PSP. Accordingly terms of agreement shall be extended as per the extended normative life of PSP. If the project is built on the land owned by GoMWRD/IDC, the land lease period shall be extended accordingly. If the developer is not willing for extension, then the developer has to hand over the land back to GoMWRD/IDC after expiry of the term.

**A-I.12: Process of Competitive Bidding :-**

**A) Request for Qualification (RFQ):**

Through RFQ process, the bidders who have the requisite technical and financial capability to undertake project shall be short listed. The model RFQ document issued by GoI, Ministry of Finance, Department of Economic Affairs (DF-II Section) vide



memorandum dated 18<sup>th</sup> May, 2009 or its revision shall be used with necessary modification as may be required to suit the Category of the project.

**B) Request for Proposal (RFP) :**

Financial offers from the bidders short listed at RFQ stage shall be obtained through RFP process. The model RFP documents issued by GoI, Ministry of Finance, Department of Economic Affairs (PF-II Section) vide memorandum dated 11th July, 2009 or its further revision shall be used with necessary modification as may be required to suit the structure of the project. Procurement authority, as a part of RFP document shall provide feasibility report and the draft agreement to all the short listed bidders.

A-I.13 a) Selection Criteria for Category I.a) projects;

The actual expenditure incurred to the current price level of the bid shall be distributed equally along with the interest at the average State Bank of India (SBI) Marginal Cost of funds based Lending Rate (MCLR) over the normative life of 40 years starting from Commercial Operation Date (COD). The expenditure to be considered for this purpose shall be corrected to actual expenditure on works of power component plus entitled normative establishment charges to the price level of the bid. This annual lease charges so worked out shall be the Threshold Annual Lease charges. The Annual Lease charges offered by bidder over and above the Threshold Annual Lease charges shall be the bidding criteria.

A-I.13 b) Selection Criteria for Category I.b) projects;

Threshold Annual Lease charges shall be Rs.2.66 Lakh (Two lakh sixty six thousand) per MW of the installed capacity, if both upper as well as lower reservoir facilities are made available to the developers by WRD/IDC and it shall be Rs.1.33 Lakh (One lakh thirty three thousand) per MW if either upper or lower reservoir facility is made available to the developer by GoMWRD/IDC. These annual lease charges are for FY 2022-23 and the same shall be increased by 5% compounding till they are further reviewed. Annual lease charges offered by bidder over and above the Threshold Annual Lease charges shall be the bidding criteria.

A-I.13 c) Selection Criteria for Category I.c) projects;

The projects under this category shall be allotted to developer through Tariff Based Competitive Bidding (TBCB) by Government of Maharashtra, Department of Energy (GoMDoE). GoMWRD will communicate list of such projects to Energy Department for Bidding process.

A-I.14: The existing available facilities such as approach road, residential quarters etc. and assets in the PSP area owned by GoMWRD/IDC would be made available to the developer on “As Is Where Is Basis”. Necessary permission for consumptive water use, during the term of agreement shall also be granted to the developer from the existing reservoir/source of water. GoMWRD/IDC shall monitor the execution from dam safety point of view. The ownership of the reservoir shall remain with the GoMWRD/ IDC.

A-I.15: Concerned Chief Engineer of IDC shall be the signatory for the HPDA. Concerned Superintending Engineer & Executive Engineer shall be the contract Manager.

A-I.16: The “Right of First Refusal” for the purchase of energy generated shall vest with state distribution licensee. Developer has to arrange for the pumping energy. No capital investment will be made or revenue expenditure be incurred on any component of project by GoMWRD/IDC

A-I.17: GoMWRD/IDC might have incurred some expenditure on survey/ investigation/ Feasibility report/ DPR. All such expenditure incurred by GoMWRD / IDC for these PSPs shall be payable to GOMWRD/ IDC at the price level of MoU /LoP by developer for the PSPs allotted through MoU route.

A-I. 18: After obtaining all the mandatory clearances, prior to start the work, an agreement (HPDA) shall be entered with the chief engineer of concerned IDC which shall also include the various mandatory payments to be done by the developer to IDC/GoM WRD. PSP developer shall also enter into an agreement for the water availability and annual water use with concerned Executive Engineer.

A-I.19: Developer shall pay all mandatory payments to concerned IDC as stipulated in Part-B of this policy.

**A-II : IMPLEMENTATION OF CATEGORY II PSP:-**

A-II.1: PSP sites under this category are identified solely by GoI/CPSE / private developers. Hence allotment shall be done directly through MoU route as per MoP, GoI guidelines issued vide letter dt. 10.04.2023.

A-II.2: PSPs identified by GoI are communicated to Government of Maharashtra vide their letter dated August 8, 2022 (enclosed as Annexure-II) are undergoing feasibility study by various CPSE like THDCL, NHPC, NTPC, and SJVNL. These PSPs shall be allotted to CPSEs directly through MoU route. Subsequent directives by MoP, GoI also shall be applicable. MAHAGENCo may opt to develop the site by forming a joint venture with CPSE. Final decision in this regard should be taken by GoMDoE with the consent of concerned CPSE.

A-II.3: GoMDoE shall enter into MoU with the developer for the direct allotment of PSPs.

A-II.4: All other statutory clearances /approvals shall be obtained by the developer.

A-II.5: Developer shall apply to concerned IDC to obtain NOC for Water Availability Certificate. Based on report from IDC, Chief Engineer (Hydrology & Dam Safety), Nasik shall issue Water Availability Certificate. This process should be completed preferably within 3 months from signing of MoU.

A-II.6 DPR shall be based on the Water Availability Certificate.

A-II.7 The clearance to the DPR prepared shall be obtained from the competent authority i.e. CEA or GoMWRD within stipulated period from the date of Water Availability Certificate, as per the prevailing norms of CEA.

A-II.8 If developer fails to obtain DPR clearance as stipulated in clause A-II.7 within stipulated time period from the date of Water Availability Certificate, he shall justify the delay and seek extension to the MoU/LoP given, otherwise MoU/LoP shall stand cancelled. Power to give such extension is with Secretary (CAD),GoMWRD.

A-II.9 After getting clearance from the CEA, the approved DPR shall be submitted to the Concerned IDC. IDC shall then issue Letter of Allotment (LoA) within 30 days from the date of submission of DPR. LoA shall also include the various

mandatory payments to be done by the developer to IDC/GoMWRD. Developer shall pay all mandatory payments to concerned IDC as stipulated in Part-B of this policy.

A-II.10. Allotment shall be on Built, Own, Operate & Maintain (BOOM) basis.

A-II.11: The ownership of the project shall vest with the developer. If Developer requires reservoir or land which belongs to GoMWRD/IDC on lease basis, then he shall enter in to Lease Agreement with concern Chief Engineer of respective IDC. The Reservoir or land if any is allotted to developer on lease basis, It shall be transferred back to respective IDC after end of lease Agreement. Developer shall not claim ownership for this land/reservoir.

A-II.12. After expiry of normative life, developer shall carry out renovation & modernisation of the project. Accordingly the term of lease agreement will be extended suitably if the developer has opted for the land / reservoir owned by GoMWRD/IDC.

A-II.13 The “Right of First Refusal” for the purchase of energy generated shall vest with state distribution licensee. Developer has to arrange for the pumping energy. No capital investment will be made or revenue expenditure be incurred on any component of project by GoMWRD/IDC.

A-II.14 PSP developer shall enter into an agreement with the concerned executive engineer of the IDC who will be the signatory for the water availability and annual water use agreement.

### **A-III: IMPLEMENTATION OF CATEGORY III PSP :-**

PSPs under this category are PSPs cum LIS. During monsoon, the installations of these schemes will partially operate in pumping mode for inter -basin water transfer and partially as PSPs. After monsoon, the schemes will operate as PSPs with its full capacity. These schemes will be suitably located to transfer surplus water of west flowing river basins to east flowing basin/sub basins. The list of schemes under this category will be made available on GoMWRD website in due course.

A-III-1: PSPs under this category shall be allotted through competitive bidding process by GoMWRD /IDC. The PPP model shall be Built, Operate & Transfer with Viability Gap Funding (BOT-VGF). The objective of this model is limited to bring the cost of inter-basin water transfer within the commercial viable limit. Advantage of going for PSP cum LIS over LIS for inter-basin water transfer is that, LIS operate only

in monsoon thereafter remains idle while in PSP cum LIS with the same setup in use, it works as both a PSP and LIS without any idling.

A-III-2: GOMWRD/IDC shall frame the detail guidelines for preparation of DPR, its appraisal, approval of the financial support, maximum limit of VGF, procedure of disbursement of VGF etc. consistent with the guideline issued by GoI, Ministry of finance, Department of Economic Affair, PPP cell, dated December 7, 2020 and its subsequent amendment if any.

A-III-3: Techno-economic clearance as well as administrative approval to the DPR shall be given by concerned Competent Authority. As per prevailing norms, the clearance to the DPR prepared shall be obtained from CEA and for DPR which are not in the scope of CEA as per applicable guidelines by GoMWRD.

A-III-4: Developer shall be selected by transparent bidding process. Bidding criteria shall be amount of VGF required by the bidder. Bidder who offers lowest VGF shall be the main selection criteria. GoMWRD / IDC shall provide the VGF in the form of grants, one time or differed as per the provisions in the guidelines and contract document.

A-III-5: HPDA shall be on Built, Operate and Transfer (BOT) Basis. The term of the agreement shall be 45 years. Developer shall develop, maintain and operate PSP cum LIS during this term at its own cost. After expiry of the term of agreement, developer shall carry out renovation and modernisation of PSP cum LIS. Accordingly term of agreement may be extended further mutually as per the pre specified terms and conditions. At the end of term of extended BOT period, the developer shall hand over the project to concerned IDC.

A-III-6: Developer shall use the pumping capacity of the installation in monsoon partially or fully, to meet the inter-basin water transfer requirement. In monsoon, priority will be given to the inter-basin water transfer till the specified quota of water is transferred.

A-III-7: IDC shall sign the long term inter-basin water transfer agreement with the developer and pay inter-basin water transfer charges on monthly basis as mentioned in the agreement. IDC shall make available all the necessary available data to the

developer free of cost. IDC shall approve the designs and shall monitor the work from safety point of view.

A-III.8: Developer shall pay all mandatory payments to concerned IDC as stipulated in Part-B of this Policy.

### **PART- B: Mandatory Payments to IDC**

**B-I.** The developer shall have to make the following mandatory payments to the respective IDC along with the applicable taxes/levies/cess/duties wherever applicable.

#### A.Reservoir Lease Charges:

The annual lease charges shall be applicable only when public assets are leased out to the developer. Annual lease charges vary from project to project and shall be prescribed in the agreement. Annual lease charges shall be applicable for the upper/lower dam if owned by the GOMWRD/IDC. Annual lease charges shall be Rs.2.66 Lakh (Two lakh sixty six thousand) per MW of the installed capacity, if both upper and lower reservoir facilities are made available to the developers by WRD/IDC. It shall be Rs.1.33 Lakh (One lakh thirty three thousand) per MW if either upper or lower reservoir facility is made available. These annual lease charges are for FY 2022-23 and the same shall be increased by 5% compounding till they are further reviewed.

#### B. Land Lease Charges:

If the land of IDC is leased to developer he has to pay land lease charges as per prevailing rates to concerned IDC.

#### C. Water Charges (Initial filling & annual water consumption)

Developer shall pay to the respective IDC, charges for one-time filling as well as annual consumptive water at prevailing industrial rate.

The revenue received under this policy shall be divided between State Govt. & IDCs as per prevailing norms/ rules. Lease charges shall be invoiced at the beginning of every financial year. All these charges will have to be settled within 30 days from the date of invoice, along with the applicable taxes thereon. Thereafter the interest at

prevailing SBI MCLR plus 2% (Two percent) per annum on delayed payment, for delayed period shall be applicable.

### **PART- C: Water Allocation Policy for PSP:**

- a) In PSP, water usage is cyclic. Water is recirculated in closed loop. However it requires one-time initial filling as well as annual consumptive water requirement. After the initial filling of the reservoirs, annual consumptive water requirement is very minimal and it is just to recoup the evaporation and tank losses.
- b) Annual consumptive water use permission shall be granted by the IDC from the available water/ sectoral allocation of industrial sector of the reservoir as the case may be.
- c) For the allotment through bidding, the bids shall be called only after seeking the water availability certificate from the competent authority. Hence the successful bidder is not expected to apply for the water permission separately.

IDC, subject to availability of water shall process the application for water permissions to PSP on priority and grant the water permission preferably within 3 (three) months, from the receipt of application, in the prescribed proforma. Thereafter, PSP developer shall enter into an agreement with the concerned executive engineer of the IDC. The developer shall give its year wise annual demand of water to concerned executive engineer.

### **PART- D: Generation, Sale of Energy & Regulatory Provisions**

#### **D-I Generation:**

As per the provisions in EA 2003, power generation is delicensed. The developer during the term of the lease shall operate and maintain the power plant, provided the technical standards related to connectivity with the grid referred to in sub-Section (b) of Section 73, provisions in Section 10 and all other relevant provisions in EA 2003, regulations of Central Electricity Authority, prevailing regulations / orders of the Appropriate Commission shall be followed.

## **D-II Sale of Energy:**

Energy storage capacity of PSP can be integrated with any solar and/or wind projects situated in any part of India including the state of Maharashtra, for delivering firm Renewable Energy (RE). The distribution licensee(s) in the State are not obligated to purchase the power from the PSP. Similarly, they are not obligated to supply pumping energy to the PSP. However, distribution licensee(s) shall have “First Right of Refusal” for all the benefits of the PSP. However, distribution licensee shall communicate its decision within 30 days from date of communication by the developer. The tariff for sale of power and ancillary services provided by the PSP to the distribution licensee shall be governed by the applicable regulations of the Appropriate Commission.

## **D-III Regulatory Provisions:**

As per the provisions in the Section 33 of EA 2003, developer shall comply with the provisions of the State Grid Code and the directions of the Maharashtra State Load Despatch Centre (MSLDC). Further, regulatory provisions with respect to scheduling & despatch of power, grid interconnection, evacuation arrangements and wheeling & transmission shall be governed by the prevailing Grid Code, regulations and the orders of the Appropriate Commission.

## **PART- E: Co-Located PSP-Solar and Other RE Hybrid Projects**

**E-I.** Subjected to provisions in clause E-II below, the developer at its own discretion may opt to develop hydro-solar and other RE hybrid project, for optimum utilisation of land, water body and evacuation arrangements. Surplus land available if any with GOMWRD/IDC shall be handed over to the developer on lease with applicable lease rent as stipulated in E-II.6. Also, if the developer is willing to install floating solar installations on GoMWRD/ IDC owned reservoirs, the necessary permission will be granted after ascertaining the feasibility thereof.

**E-II.** For the developer who opts to develop, hydro-solar and RE hybrid project, as per the provisions in Clause E-I above, following additional provisions shall also be applicable.



- E-II.1.** The developer to whom PSP is allotted, after site inspection, shall submit the DPR for the co-located hydro-solar hybrid project to the CE (Electrical), Hydro Projects, Mumbai along with the onetime processing fee Rs. 1 Lakh per MW or part thereof of solar installation for the FY 2022-23 and same shall be increased in every subsequent financial year by 5% compounding. However, maximum processing fee shall be Rs. 50 Lakhs (Fifty Lakhs).
- E-II.2** On scrutiny of such proposal and subject to availability of additional land, the proposal will be approved and the separate Letter of Permission (LoP) shall be issued by the CE (Electrical), Hydro Projects, Mumbai with prior approval of the GoMWRD/IDC. For other Renewable Energy (RE) set up the permission shall be obtained from concerned competitive authority.
- E-II.3** Developer shall be required to sign supplementary agreement with concerned IDC for the solar project.
- E-II.4** The term of the supplementary agreement, for solar component shall be of 25 years.
- E-II.5** Separate generation meter shall be provided for solar as well as for PSP, as per CEA regulations and the provisions of the regulations notified by the Appropriate Commission.
- E-II.6** In case, the permission to install solar panels on land or water bodies in possession of IDC is granted to the developer, it shall pay to the IDC, the annual additional lease charges at the following rates:
- a. For land leased out by GoMWRD / IDC installed solar panels: Rs. 0.10 per kWh of net energy exported from the solar installation, for FY 2022-23 and same shall be increased in every subsequent financial year by 5% compounding.
  - b. For Floating Solar Panels: Rs. 0.05 per kWh of net energy exported from the floating solar installation, for the FY 2022-23 and same shall be increased in every subsequent financial year by 5% compounding.
- E-II.7** Developer may use the power produced from co-located solar/ RE power plants, under this policy, for (a) captive/ pumping purpose (b) sale to third party through open access (c) sale to any distribution licensee as per the provisions of the regulations and orders of the Appropriate Commission.

**E-II.8.** At the end of the lease period, the developer shall carry out renovation and modernization of solar plant at his own cost. Accordingly lease period shall be extended up to expiry of agreement term of PSP. If the term of agreement being extended further beyond 45 years for PSP, the lease term for solar plant may suitably be extended accordingly. If the developer is not ready for renovation and modernization and not willing to extend the lease term for solar plant then the developer has to remove the infrastructure created for solar installation on government land / reservoirs, dispose it off at its own cost and handover the land back to the IDC, in a state in which it was made available to the developer for installation of the Solar Project. The proceeds of the disposal shall lie with the developer.

## **PART- F: GENERAL PROVISIONS**

### **F-I. Land Acquisition:**

Developer shall acquire the land required for the project at its own cost. If the transfer of the IDC land is unavoidable, the same shall be given to the developer on lease. If the diversion of forest land is inevitable, the developer shall seek permission of the Ministry of Environment & Forest, under the Forest Conservation (FC) Act, 1980. GoMWRD/IDC shall facilitate the acquisition of land and clearance under FC Act, 1980.

The developer shall not use the government land handed over to it for any other purpose, other than the purpose, envisaged in this policy, without prior explicit permission of the IDC.

### **F-II. Guidelines for Preparation of DPR:**

As mandated in section 8(1) of the EA 2003, read with the Central Government Notification No.SO 490 (E) dated 28.01.2014, has fixed the limits of capital expenditure for various categories of hydroelectric schemes to be submitted to the CEA, for its concurrence. Therefore, the developer shall prepare the DPR following “Guidelines for Formulation of Detailed Project Reports for Hydro Electric Schemes, their Acceptance and Examination for Concurrence” issued by prevailing guidelines of CEA. It shall be the responsibility of the developer to seek concurrence of the CEA / GoMWRD.

### **F-III. Access to Data and Generic Risks Disclosure:**

So as to enable bidder to take informed decision, all the available necessary data / information including the pre-feasibility report and feasibility report shall be made available to bidders. Further, Procurement Authority, as far as possible, should disclose generic risks involved in the project along with allocation and treatment of such generic risks in the agreement. Information which is reasonably required for exercise of its rights and obligations should invariably be disclosed. However, if any risk is not disclosed due to inadvertence or due to circumstances beyond the control of the Procurement Authority, then this shall not be a ground for any claim, demand or dispute by the developer.

### **F-IV. Dispute Resolution;**

If the dispute arises between the parties in agreement as far as possible, it should be resolved mutually. However, if the dispute remains unresolved, the dispute will be resolved by arbitration as per provisions of Arbitration & Conciliation Act 1996 & its amendments if any.

### **F-V. Taxes and Duties:**

Developer shall pay all the taxes, duties, cess & other levies as per prevailing Acts/Rules/ GRs if any made applicable from time to time by the respective departments of the Central, State and Local Governments unless specifically exempted.

### **F-VI. Transfer of Allotment:**

If the developer, as per the prevailing laws, intends to transfer its rights of the project, it shall be permitted to do so, only after prior explicit approval of the GoMWRD. GoMWRD may give such approval provided,

- a) Financial institution has consented such transfer.
- b) Proposed developer agrees to all the terms & conditions of the HPDA and Supplementary Agreement of Solar project, signed by the original developer.
- c) Developer shall deposit the applicable one time transfer fee. The transfer fees shall be of Rs. 2 (Two) Lakhs/MW of installation of PSP or Hydro-Solar Hybrid Project. The maximum limit of transfer fees will be Rs. 1 Crore per project. This fee is for FY 2022-23 and same shall increase in every subsequent year by 5% compounding.
- d) In case of hydro-solar/RE hybrid project the entire ownership (Hydro generating plant and solar/RE installations) will have to be transferred.

**F-VII. Interpretation of the Policy:**

In the event of dispute, in respect of interpretation of any of the provisions or giving effect to any of the provisions, in this policy, the decision of the Secretary (CAD), GoMWRD shall be final, conclusive and binding;

Provided that in all such matters, reasonable opportunity will be given to the affected party, to be heard, before the final decision.

**F-VIII. Distribution of Revenue Received From the Developer:**

The revenue received under this policy shall be divided between State Govt. & IDCs as per prevailing policy regarding sharing of Irrigation & Non Irrigation revenue.

**F-IX. Inspection of Project:**

In addition to the statutory inspection by Factory Inspector and Electrical Inspector, or any other statutory authority as may be applicable, the GoMWRD or the IDC, through its engineers or Panel of Experts, before and after the monsoon, every year shall inspect the project from safety point of view. The developer shall render all necessary cooperation for such inspection(s). The inspection reports shall be furnished to Chief Engineer of concerned IDC and also to Chief Engineer (Electrical), Hydro Projects, Mumbai, annually.

**F-X.** Concerned IDC will allow use of existing approach road to the project site, if it is in possession of IDC. However, the developer shall carry out the maintenance of such road.

**F-XI.** Concerned IDC will provide residential quarters, of suitable type, if available near the project site, on “AS IS WHERE IS” basis on rent to developer, for the operating staff of the powerhouse, during development and operation period. However, the developer shall carry out the maintenance of the same at its own cost. The rent shall be calculated as per prevailing norms/rules by IDC. The developer, at the end of lease period shall transfer these quarters back to IDC on “AS IS WHERE IS” basis.

**F-XII.** If the residential quarters are not available with IDC, for the operating staff, IDC shall make available the piece(s) of land, if available, to the developer, on rent for the construction of the residential quarters for the operating staff. Developer shall construct the buildings at its own cost and the same shall stand transferred to IDC free

of cost at the expiry of the term of the agreement. The rent per annum of such land shall be paid by the developer to IDC as per prevailing Government norms.

**F-XIII a).** Initially promoter has to bear the cost for transmission/evacuation of power. The subsidies or incentives as per prevailing rules and regulations of Central Government/State Government/ CERC/MERC, if any, will be applicable and promoter may apply for the same to concern authorities.

**F-XIII b).** The subsidies/incentives/facilities as per prevailing rules and regulations of State Government departments e.g. Energy, Industry (MAITRI system), Finance etc. if any, will be applicable and promoter may apply for the same to concern authorities.

**F-XIV.** The PSP sites shall be declared as a prohibited area so as to avoid the hindrances of anti-social elements.

**F-XV. Period of Enforcement:**

This policy shall be operative from the date of publication of this Resolution and shall remain in force unless withdrawn, modified or superseded by GoMWRD. GoMWRD will undertake a review of this Policy as and when required.

Allotments of PSPs done so far by Industry Department/ Energy Department/ GoMWRD to the developers directly or through MoU route shall remain valid. However, they have to sign a fresh MoU with Energy Department as per the provisions of this policy. All other necessary provisions of this policy will apply to these PSPs also.

This Government Resolution is available on the official website of Government of Maharashtra, [www.maharashtra.gov.in](http://www.maharashtra.gov.in) and its computer code is 202312201621211427 This Government Resolution is digitally signed.

By order and in the name of the Governor of Maharashtra,

**(Deepak Kapoor)**  
**Additional Chief Secretary**  
**WRD, Mantralaya, Mumbai.**

**Encl.: Annexure I & II.**

**Copy to :**

1. The Principal Secretary to Hon. Governor, Maharashtra State, Mantralaya, Mumbai
2. The Principal Secretary to Hon. Chief Minister, Maharashtra State, Mantralaya, Mumbai

3. The Principal Secretary to Hon. Dy. Chief Minister (Water Resources & CAD), Maharashtra State, Mantralaya, Mumbai
4. The Principal Secretary to Hon. Dy. Chief Minister (Planning & Finance), Maharashtra State, Mantralaya, Mumbai
5. The Leader of Opposition, (Legislative Assembly/ Council), Maharashtra State, Vidhan Bhavan, Mumbai
6. All members of Legislative Assembly & Council, Maharashtra State, Vidhan Bhavan, Mumbai
7. The Principal Secretary to Hon. All Ministers, Maharashtra State, Mantralaya, Mumbai
8. The Principal Secretary to Hon. All State Ministers, Maharashtra State, Mantralaya, Mumbai
9. The Chief Secretary, Maharashtra State, Mantralaya, Mumbai
10. The Additional Chief Secretary (Finance), Finance Department, Mantralaya, Mumbai.
11. The Additional Chief Secretary, Water Resources Department, Mantralaya, Mumbai.
12. The Principal Secretary (Planning), Planning Department, Mantralaya, Mumbai
13. The Principal Secretary (Energy), I.E. & L. Department, Mantralaya, Mumbai.
14. The Principal Secretary (Industries), I.E. & L. Department, Mantralaya, Mumbai.
15. The Principal Secretary (RLA), Law & Judiciary Department, Mantralaya, Mumbai
16. The Secretary (CAD), Water Resources Department, Mantralaya, Mumbai.
17. The Secretary (PC), Water Resources Department, Mantralaya, Mumbai.
18. The Chairman, Maharashtra Electricity Regulatory Commission, Mumbai
19. The Managing Director, MSEB Holding Company Ltd., Prakashghad, Mumbai
20. The Managing Director, MSTCL, Prakashghad, Bandra, Mumbai.
21. The Managing Director, MSEDCL Prakashghad, Mumbai.
22. The Managing Director, MSPGCL, Prakashghad, Mumbai
23. Executive Directors and Chief Engineers of all Irrigation Development Corporations
24. All CE & Joint Secretaries, Water Resources Department, Mantralaya, Mumbai
25. Chief Engineer (Electrical), Hydro Projects, Mumbai
26. All Regional Chief Engineers /Superintending Engineers of Water Resources Department.
27. Directorate General of Information & Public Relations, Maharashtra State, Mantralaya, Mumbai (2 copies)
28. HP Desk (for collection).

**Annexure-I**

<b>Sr. No</b>	<b>Abbreviation</b>	<b>Full form of Abbreviation</b>
1	BOOM	Built-Own-Operate-Maintain
2	BOT	Built- Operate - Transfer
3	CEA	Central Electricity Authority
4	CERC	Central Electricity Regulatory Commission
5	COD	Commercial Operation Date
6	CPSE	Central Public Sector Enterprise
7	CSR	Corporate Social Responsibility
8	DPR	Detailed Project Report.
9	EA 2003	Electricity Act 2003
10	ESS	Energy Storage System
11	GoI	Government of India
12	GoM	Government of Maharashtra
13	GoMDoE	Government of Maharashtra, Department of Energy
14	GoMWRD	Government of Maharashtra, Water Resources Department
15	HPDA	Hydro Power Development Agreement
16	IDC	Irrigation Development Corporation of Maharashtra
17	Concerned IDC	IDC having jurisdiction of reservoir
18	LIS	Lift Irrigation Scheme
19	LoA	Letter of Allotment.
20	LoAS	Letter of Authorization.
21	LoP	Letter of Permission.
22	MAHAGENCo	Maharashtra State Power Generating Company
23	MCLR	Marginal Cost of Funds based Lending Rate

<b>Sr. No</b>	<b>Abbreviation</b>	<b>Full form of Abbreviation</b>
24	MERC	Maharashtra Electricity Regulatory Commission
25	MoP, GoI	Ministry of Power, Government of India
26	MoU	Memorandum of Understanding
27	MSLDC	Maharashtra State Load Dispatch Centre
28	NHPC	National Hydro Power Corporation
29	NOC	No Objection Certificate
30	NTPC	National Thermal Power Corporation
31	PFR/PIR	Preliminary Feasibility Report/ Preliminary Investigation Report.
32	PPP	Public Private Partnership
33	PSPs	Pumped Storage Projects
34	RE	Renewable Energy
35	RFP	Request for Proposal
36	RFQ	Request for Qualification
37	SBI	State Bank of India
38	SJVNL	Satlaj Jal Vidyut Nigam Ltd.
39	TBCB	Tariff Based Competitive Bidding.
40	THDCIL	Tehri Hydro Development Corporation India Ltd.
41	VGf	Viability Gap Funding



File No.15-23/3/2021-HYDEL-II(MoP)

ANNEXURE - II

No.15-23/3/2021-HYDEL-II(MoP)

Government of India

भारत सरकार

Ministry of Power

विद्युत मंत्रालय

\*\*\*\*

Shram Shakti Bhawan, Rafi Marg  
New Delhi, dated 08<sup>th</sup> August, 2022

To  
The Chairman – BBMB, DVC  
The CMDs – NTPC, NHPC, SJVN, THDCIL, NEEPCO

Subject: Revised indication of Pumped Storage Projects (PSPs) to the Hydro CPSEs / BBMB / DVC – regarding.

Sir,

In supersession of this Ministry's letter of even no. dated 06.04.2022, I am directed to enclose herewith the 'revised indication of identified PSP sites to Hydro CPSEs / DVC / BBMB' and 'revised indication of States to Hydro CPSEs / BBMB / DVC' for development of Pumped Storage Projects (PSPs).

2. The concerned utilities would be responsible to take up the matter with the concerned State Governments, carry out suitable analysis and prepare the evaluation reports expeditiously on the projects indicated. Progress made by the utilities in this regard will be reviewed by this Ministry at regular intervals.

This issues with the approval of Hon'ble Union Minister of Power and New & Renewable Energy.

Encl: as above

Yours faithfully,



(R. P. Pradhan)

Director (Hydro-II)

Email: hydro2-mop@nic.in

Copy to:

- (I) The Chief Secretaries of all the State Government / UTs – with request to extend all the necessary support to the Organizations.
- (II) The Chairperson, Central Electricity Authority.
- (III) The Chairman, Central Water Commission.

Copy for information to:

- (I) O/o Hon'ble Minister of Power and New & Renewable Energy.
- (II) O/o Hon'ble Minister of State for Power.
- (III) Sr. PPS to Secretary (Power) / PPS to Joint Secretary (Hydro) / PS to Director (H-I) / DD (H-II) / DD (NHPC) / DD(BBMB) / US(H-I), MoP.

**Indication of Identified PSP sites to Hydro CPSEs / DVC / BBMB**

S. No.	Name of Project	State/UT	Probable IC (MW)	Earlier Indicated Agency	Revised indication / Changes proposed
1	Matlimarg	Jammu & Kashmir	1650	NHPC	NHPC
2	Majra	Himachal Pradesh	1800	BBMB	BBMB
3	Jaspalgarh	Uttarakhand	1935	THDCIL	THDCIL
4	Ulhas	Maharashtra	1000	NHPC	NHPC
5	Pinjal	Maharashtra	700	NHPC	NHPC
6	Kengadi	Maharashtra	1550	NHPC	NHPC
7	Jalond	Maharashtra	2400	NHPC	NHPC
8	Kolmondapada	Maharashtra	800	SJVNL	SJVNL
9	Kalu	Maharashtra	1150	NHPC	NHPC
10	Sidgarh	Maharashtra	1500	SJVNL	SJVNL
11	Amba	Maharashtra	2500	THDCIL	NTPC
12	Chornai	Maharashtra	2000	SJVNL	SJVNL
13	Savitri	Maharashtra	2250	NHPC	NHPC
14	Madliwadi	Maharashtra	900	SJVNL	NTPC
15	Baitarni	Maharashtra	1800	SJVNL	SJVNL
16	Morawadi	Maharashtra	2320	THDCIL	THDCIL
17	Gadgadi	Maharashtra	600	THDCIL	THDCIL
18	Kundi	Maharashtra	600	SJVNL	NTPC
19	Aruna	Maharashtra	1950	THDCIL	THDCIL
20	Kharari	Maharashtra	1050	THDCIL	THDCIL
21	Jalvera	Maharashtra	2000	SJVNL	SJVNL
22	Tigaleru	Andhra Pradesh	1650	SJVNL	NTPC

23	Varahi**	Karnataka	700	SJVNL	Karnataka Power Corporation Ltd. (KPCL)
24	Nallar	Tamil Nadu	2700	THDCIL	THDCIL
25	Idukki	Kerala	300	THDCIL	THDCIL
26	Pallivasal	Kerala	600	THDCIL	THDCIL
27	Jharlama	Odisha	2500	NHPC	NHPC
28	Kulbera	West Bengal	1110	DVC	DVC
29	Panchet Hill	West Bengal	600	DVC	DVC
30	Lugupahar	Jharkhand	2800	DVC	DVC
31	Boro	Jharkhand	500	DVC	DVC
32	Tuivai	Manipur	2100	NEEPCO	NEEPCO
33	Hengtam	Manipur	2250	NEEPCO	NEEPCO
34	KhuaiLui	Assam	2100	NEEPCO	NEEPCO
35	LeivaLui	Mizoram	2100	NEEPCO	NEEPCO
36	Pakwa	Mizoram	1000	NHPC	NHPC
37	TuithoLui	Mizoram	1050	NEEPCO	NEEPCO
38	Mat	Mizoram	1400	NEEPCO	NEEPCO
39	TuiphaiLui	Mizoram	1650	NEEPCO	NEEPCO
40	Nghasih	Mizoram	1250	NEEPCO	NEEPCO
41	DaizoLui	Mizoram	2000	SJVNL	SJVNL
42	Sandynalla	Tamil Nadu	1200		NTPC
43	Upper Bhavani	Tamil Nadu	1000		NTPC
44	Sigur	Tamil Nadu	1200		NTPC
45	Sillahalla Stage-II	Tamil Nadu	1000		NTPC
46	Netravathy Stage-I	Karnataka	1500		NTPC
47	Indira Sagar – Omkareshwar	Madhya Pradesh	500		NHPC
48	Panyor	Arunachal Pradesh	660		NEEPCO

49	Kopili	Assam	320		NEEPCO
50	CheraKhad	Himachal Pradesh	500		SJVNL
51	Dhurmu	Himachal Pradesh	1600		SJVNL
52	TaalKhad	Himachal Pradesh	135		SJVNL
53	Sadda	Himachal Pradesh	220		SJVNL
54	Purthi and Sach Khas PSP	Himachal Pradesh	190		SJVNL
55	MalshejGhat	Maharashtra	700		THDCIL
56	Humbarli	Maharashtra	400		THDCIL

\*\* Government of Karnataka has allotted the Varahi PSP to Karnataka Power Corporation Limited (KPCL) and KPCL has already prepared that PFR with installed capacity of 1500 MW.

### Summary

Agency	Number of Projects		Capacity (In MW)	
	Earlier	Revised	Earlier	Revised
NHPC	9	10	14200	14700
SJVNL	10	11	13950	12745
THDCIL	9	10	13955	12555
NEEPCO	8	10	13900	14880
DVC	4	4	5010	5010
BBMB	1	1	1800	1800
NTPC	-	9	-	11550
<b>Total</b>	<b>41</b>	<b>55</b>	<b>62815</b>	<b>73240</b>